

CLAIMS

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- 09/647650-100300
1. A photocatalytic composition comprising at least one photocatalyzing agent and at least one inorganic binder, characterized in that the inorganic binder comprises an aqueous colloidal dispersion of silicon dioxide (SiO_2), in which the SiO_2 particles represent from 20 to 50% by weight of the colloidal aqueous dispersion and have a diameter of between 10 and 40 nanometers, said silica particles being capable of bonding together after having coated the photocatalyzing agent.
 2. The photocatalytic composition as claimed in claim 1, characterized in that the binding agent consists exclusively of an aqueous colloidal dispersion of silicon dioxide (SiO_2).
 3. The photocatalytic composition as claimed in claim 1, characterized in that the photocatalyzing agent is anatase TiO_2 .
 4. The photocatalytic composition as claimed in claim 3, characterized in that the diameter of the TiO_2 particles is between 10 and 30 nanometers.
 5. The photocatalytic composition as claimed in claim 1, characterized in that it comprises from 10 to 60 parts (as dry matter) of the aqueous colloidal dispersion of silicon dioxide, the balance to 100 parts consisting of TiO_2 .
 6. The photocatalytic composition as claimed in claim 5, characterized in that it comprises 50 parts of titanium dioxide and 50 parts of the aqueous colloidal dispersion of silicon dioxide.
 7. The photocatalytic composition as claimed in claim 1, characterized in that it furthermore includes zeolites modified by metal ions capable of preventing the development of undesirable microorganisms and fungi.

8. The photocatalytic composition as claimed in claims 1, characterized in that it furthermore includes active carbon.

9. A process for manufacturing a photocatalytic composition as claimed in claim 1, characterized in that, while stirring, the photocatalyzing agent is mixed into the inorganic binder until a homogeneous suspension is obtained.

10. A process for manufacturing a photocatalytic composition as claimed in claim 7, characterized in that, while stirring, the photocatalyzing agent and the zeolites modified by metal ions are mixed into the inorganic binder until a homogeneous suspension is obtained.

11. A process for manufacturing a photocatalytic composition as claimed in claim 8, characterized in that, while stirring, the photocatalyzing agent and the active carbon are mixed so as to obtain a homogeneous suspension.

12. Use of the photocatalytic composition according to claim 1 in the form of paint.

13. A filtering medium comprising a support coated on at least one of its faces with a layer of the photocatalytic composition as claimed in claim 1.

14. The filtering medium as claimed in claim 13, characterized in that the support is a fibrous support.

15. The filtering medium as claimed in claim 13, characterized in that the support is an acoustic panel.

16. The filtering medium as claimed in claim 13, characterized in that when one of the faces of the support is coated with said photocatalytic composition, the other face of the support is coated with a second composition capable of eliminating odors, comprising a derivative of undecylenic acid.

17. The filtering medium as claimed in claim 16, characterized in that said second composition furthermore includes dioctyl sulfosuccinate capable of destroying mite-type insects.

18. The filtering medium as claimed in claim 13, characterized in that it furthermore includes a prefilter in the form of a support coated with said second composition capable of eliminating odors, comprising a derivative of undecylenic acid.

10 19. The filtering medium as claimed in claim 18, characterized in that said second composition furthermore includes dioctyl sulfursuccinate capable of destroying mite-type insects.

15 20. A process for manufacturing a filtering medium as claimed in claim 13, characterized in that the support is coated with the photocatalytic composition as claimed in one of claims 1 to 8 in an amount from 5 to 40 g/m² of TiO₂.

20 21. A process for manufacturing a filtering medium as claimed in claims 6 or 18, characterized in that said second composition is coated in an amount of 2 g/m² on the support.

22. The use of a filtering medium as claimed in claim 13, for the treatment of air.

25 23. Use of a filtering medium as claimed in claim 13, for the treatment of liquid effluents.

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